

## ABSTRACT

The subject of the present invention is to provide a  $\beta$ -lactam acylase protein having high activity, a gene  
5 coding for said  $\beta$ -lactam acylase protein, a recombinant  
vector having said gene, a transformant containing said  
recombinant vector, and a method of producing a  $\beta$ -lactam  
antibiotic such as amoxycillin using said  $\beta$ -lactam acylase.  
A  $\beta$ -lactam acylase gene of Stenotrophomonas maltophilia was  
10 cloned, the DNA base sequence and the amino acid sequence  
expected therefrom was determined, and a Stenotrophomonas  
 $\beta$ -lactam acylase gene was obtained. This gene was found to  
code for a protein with a molecular weight of about 70 kDa  
and having  $\beta$ -lactam acylase activity, and could efficiently  
15 produce amoxycillin without being inhibited by phenylacetic  
acid, etc. Furthermore, by modification of the amino acid  
sequence, a protein which can more efficiently produce  
amoxycillin could be obtained.

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